

## REMARKS

Applicants appreciate the detailed examination evidenced by the Office Action dated January 3, 2007. In response, Applicants respectfully cancel Claims 21-23 and request reconsideration of presently pending Claims 1-20 and 24-35 based on the following remarks. Applicants respectfully submit that the claims as presented are patentable over the cited references and are in condition for allowance for at least the following reasons.

### **Independent Claims 1 and 24 are patentable**

The Office Action rejects Claims 1 and 24 under 35 U.S.C. §103 as being unpatentable over U.S. Published Patent Application No. 2003/0076560 to Pratt et al. ("Pratt") in view of U.S. Patent Application Publication No. 2002/0071149 to Xu et al. ("Xu"). Applicants note that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *See* M.P.E.P. § 2143.01(citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)). As emphasized by the Court of Appeals for the Federal Circuit, to support combining references, evidence of a suggestion, teaching, or motivation to combine must be **clear and particular**. *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). In another decision, the Court of Appeals for the Federal Circuit has stated that, to support combining or modifying references, there must be **particular** evidence from the prior art as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination **in the manner claimed**. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

Applicants respectfully submit that the final Office Action does not meet these requirements. For example, Claim 1 recites:

A telecommunications system, comprising:  
a passive optical network (PON) including an optical splitter  
configured to serve optical network terminations (ONTs) at respective ones of  
**a plurality of subscriber premises**; and  
an optical network unit (ONU) coupled to the PON and configured to  
provide communications for **the plurality of the subscriber premises**.

(*Emphasis added.*) Applicants note that the Background of the Invention section ("Background") of the present application clearly discusses two traditional fiber distribution

architectures as Fiber to the Curb (FTTC) and Fiber to the Home (FTTH) that appear to be applicable to Pratt and Xu, respectively. For example, Pratt discusses wavelength division multiplexing in the context of a FTTC system. Pratt, paragraph 14. In contrast, Xu discusses interface protection in the context of a FTTH system. Xu, paragraph 17. Pratt and Xu, alone or in combination, however, do not disclose or suggest combining a FTTC system with a FTTH system to create a hybrid FTTC/FTTH network. For example, Xu specifically discusses that the pre-ranging and uni-ranging methods are suitable for an FTTH system. Xu, paragraph 17. In particular, both Pratt and Xu appear to each appear to describe specific techniques for improving certain characteristics and/or properties of their respective system types, but do not appear to contemplate and/or consider applicability to another system type and/or mixing system types.

In rejecting Claims 1 and 24, the Office Action states:

Pratt et al. teach a telecommunications system, comprising: a passive optical network (PON) including an optical splitter (18 in figure 1) configured to serve optical network terminations (ONTs) at respective ones of a plurality of subscriber premises (12 in figure 1, page 2, paragraph 0018 supports ONTs located at the subscriber premises).

However, Pratt et al. does not teach an optical network unit (ONU) coupled to the PON and configured to provide communications for the plurality of the subscriber premises.

Xu et al. teach an optical network unit (ONU) coupled to the PON and configured to provide communications for the plurality of the subscriber premises (figure 1 shows ONU connected to local network and subscriber premises).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the ONU to serve the subscriber premises as taught by Xu et al. in the network taught by Pratt et al. in order to route the signals to their appropriate subscribers.

Office Action, pages 2-3. Applicants respectfully disagree with the allegations of the Office Action. The mere fact that Pratt describes a FTTC system and Xu describes a FTTH system is not clear and particular evidence of a teaching or suggestion to modify the network described in Pratt *in the specific manner recited in Claim 1*, as neither Pratt nor Xu disclose or suggest this specific approach. The reasoning provided on page 3 of the Office Action as a basis for modifying the network described in Pratt, namely, that "it would have been obvious to . . . use the ONU to serve the subscriber premises as taught by Xu et al. . . . in order to route

the signals to their appropriate subscribers" (Office Action, p. 3), is not clear and particular evidence of a motivation to combine the references to produce the specific recitations of Claim 1, as "routing the signals to their appropriate subscribers" is vague and nonspecific as to which "signals" and in which "subscribers" are being referred. Thus, the Office Action fails to provide the evidence from the prior art of a suggestion or motivation to combine Pratt and Xu required to support a § 103 rejection based on these references.

In light of the foregoing, Applicants submit that the Office Action fails to provide the evidence from the prior art of a motivation to combine these references required to support a *prima facie* showing of obviousness under 35 U.S.C. § 103. For at least these reasons, Applicants submit that independent Claim 1 is patentable over the cited combination of Pratt and Xu.

The Office Action rejects Claim 24 under the same rationale as Claim 1. Applicants respectfully submit that Claim 24 is patentable over Pratt in view of Xu for at least similar reasons to those discussed above regarding Claim 1. Accordingly, Applicants respectfully request the allowance of Claims 1 and 24.

#### **Dependent Claims 2-20 and 25-35 are patentable**

Applicants submit that dependent Claims 2-20 and 25-35 are patentable over Pratt and Xu at least by virtue of the patentability of independent Claims 1 and 24, respectively. In addition, various of the dependent claims are separately patentable. For example, dependent Claim 7 further recites that " a composite copper/fiber cable couples a host digital terminal (HDT) and the power source to the optical splitter and the ONU, respectively."

In rejecting Claim 7, the Office Action states:

Pratt et al. and Xu et al. disclose all of the subject matter as described above, except for a system wherein a composite copper/fiber cable couples an optical line terminal (OLT) and the power source to the optical splitter and the ONU, respectively. Fitz teaches a system wherein a composite copper/fiber cable couples an optical line terminal (OLT) and the power source to the optical splitter and the ONU, respectively (column 7, lines 22 - 30, the splitters are part of the optical distribution elements).

Office Action, p. 8. As the cited references fail to show an ONU and optical splitter configured to provide both FTTH and FTTC to a subscriber premises, they clearly further fail to show an arrangement utilizing a composite cable to provide an optical signal from the

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HDT to the optical splitter and power from the power source to the ONU. Accordingly, Claim 7 is also separately patentable for at least these reasons. Regarding Claim 6, Applicants respectfully submit that Claim 6 is patentable over Pratt in view of Xu and in further view of Fitz for at least similar reasons to those discussed above regarding Claim 7.

### **Conclusion**

As all of the claims are now in condition for allowance, Applicants respectfully request allowance of the claims and passing of the application to issue in due course. Applicants urge the Examiner to contact Applicants' undersigned representative at (919) 854-1400 to resolve any remaining formal issues.

Respectfully submitted,



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### **CERTIFICATION OF TRANSMISSION**

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on May 3, 2007.



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